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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,540	10/31/2003	William Preston Keith	60113.0002US01	9961

7590

10/12/2006

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EXAMINER

AFTERGUT, JEFF H

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,540

Applicant(s)

KEITH ET AL.

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell et al in view of Kondo et al (newly cited).

Campbell is discussed at length in the Office action dated 7-7-06 and applicant is referred to the same for a complete discussion of the reference. The reference made clear that the:

"Stiffener member 12 and skin member 10 are typically composite components made up of individual plies of fabric reinforced by a resin matrix as is known in the composite arts."

The claims require as presented "layering a plurality of plies of material with interspersed orientations within a stack sequence to create a solid laminate". The reference to Campbell et al clearly included two or more plies of material which were in a stack. The reference did not expressly state that the fibers of the plies were disposed in any particular interspersed orientation, however those skilled in the composite arts would have understood that in order to function as a stiffening member the composite plies must include fibers of varying orientations (otherwise the requisite stiffness in the stiffener would not have been attained). To evidence that those skilled in the art would have understood that such would have been the case in the composite arts when manufacturing a stiffener, the reference to Kondo et al is cited. It should be noted that Campbell clearly suggested the insertion of the pins at the bend region of the composite and this goes without question.

Kondo et al suggested that those skilled in the art manufacturing a composite stiffener would have formed a stiffener from composite plies which were assembled together as a stack into a first flat plate shaped laminate which was then shaped to form the stiffener. As shown in Figure 3, the first flat plate shaped member was formed from sheets 4a to 4e which were laminated together as depicted in Figure 3. The reference taught that the number of plies and the orientations of the reinforcement in the plies would have varied and were a function of the requisite stiffener to be formed, see paragraph [0027]. The reference took the flat plates formed from this lamination operation and reshaped the same to provide pieces 8a and 8b. These pieces 8a and 8b were then assembled with piece 8c (a flat plate) to form the stiffener. Clearly, one reading the reference to Campbell et al would have understood that the composite stiffener 12 and skin member 10 would have been formed from a stack of composite resin impregnated plies which included various orientations in order to facilitate formation of the a stiffener having the required stiffness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ multiple orientations of fibers which varied in a stack in order to form the same with the desired stiffness as taught by Kondo et al wherein the composite stiffener included insertion of reinforcing pins in the bend of the same as taught by Campbell et al.

With regard to claims 2 and 3, applicant is referred to the previous Office action. Regarding claim 21, the reference to Campbell clearly included insertion of pins at the bend region. While the reference did not express that the amount of pin insertion was approximately 2 percent of the volume of the solid laminate, the amount of material

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inserted in the bend would have been determined through routine experimentation as a function of the necessary z-pin reinforcement needed. Regarding claim 22, one skilled in the art would have understood the appropriate spacing utilized for the placement of the z-direction reinforcement therein.

3. Claims 4, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with David for the same reasons as expressed in paragraph 12 of the Office action dated 7-7-06.

Election/Restrictions

4. Applicant's election with traverse of Group I, claims 1-7, 21, and 22 in the reply filed on 9-7-06 is acknowledged. The traversal is on the ground(s) that the claims are clearly related in the two groupings of claims (group I and group II) and a through search and examination of either group would be relevant to the other group and would not place a serious burden upon the examiner. This is not well taken. As previously noted in the Office action dated 7-7-06, there are clearly mandatory searches which are different for the different groupings of claims. Additionally, it should be noted that a through search of the product or the process does not require the search of the other. Applicant is additionally advised that there is an additional examination burden associated with examination of the process and article in the same application. Namely, the process by which the pins are inserted is of no import to the article of manufacture and the article of manufacture could be made by inserting the pins into a flat laminate followed by bending the laminate. The applicant's arguments have not been found persuasive.

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The requirement is still deemed proper and is therefore made FINAL.

Allowable Subject Matter

5. Claims 5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

See paragraph 13 of the Office action dated 7-7-06.

Response to Arguments

6. Applicant's arguments with respect to claims 1-7, 21, and 22 have been considered but are moot in view of the new ground(s) of rejection.

The applicant is advised that the reference to Campbell clearly suggested that those skilled in the art would have used a stack of multiple plies of fiber reinforced composite material wherein the fibers of the plies were oriented in varied directions in order to provide the desired stiffness as evidenced by Kondo et al. The applicant also argues that the reference to Campbell et al suggested that the plies would have formed a solid structure. The fact that there is a noodle region is immaterial as the noodle portion is not part of the composite plies making the bend (but rather it is disposed at the bend). Applicant's argument in this regard have not been found to be persuasive.

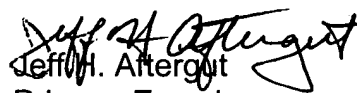
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
October 5, 2006